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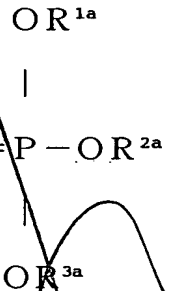
CLAIMS

1. A non-aqueous electrolyte secondary battery comprising a chargeable and dischargeable positive electrode, a non-aqueous electrolyte containing a lithium salt, and a chargeable and dischargeable negative electrode,

wherein at least one of said positive electrode, said non-aqueous electrolyte and said negative electrode contains at least one selected from the group consisting of

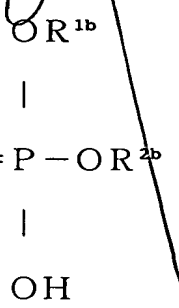
a phosphate represented by the general formula (1):



(1)

where $R^{1a}$, $R^{2a}$ and $R^{3a}$ independently represent an aliphatic hydrocarbon group having 7 to 12 carbon atoms,

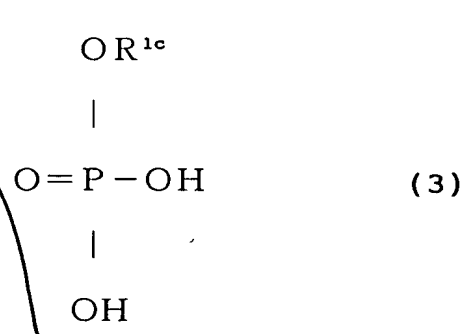
a phosphate represented by the general formula (2):



(2)

where $R^{1b}$ and $R^{2b}$ independently represent an aliphatic hydrocarbon group having 1 to 12 carbon atoms or an aromatic hydrocarbon group, and

a phosphate represented by the general formula (3):



(3)

where $R^{1c}$ represents an aliphatic hydrocarbon group having 1 to 12 carbon atoms or an aromatic hydrocarbon group.

2. The non-aqueous electrolyte secondary battery in accordance with claim 1,

wherein at least two selected from the group consisting of $R^{1a}$, $R^{2a}$ and $R^{3a}$ are identical with each other in said general formula (1), and/or $R^{1b}$ and $R^{2b}$ are identical with each other in said general formula (2).

3. The non-aqueous electrolyte secondary battery in accordance with claim 1,

wherein at least one of said positive electrode, said non-aqueous electrolyte and said negative electrode contains a mixture of at least two selected from the group consisting of a phosphate represented by said general formula (1), a phosphate represented by said general formula (2), and a phosphate represented by said general formula (3), where $R^{1a}$, $R^{2a}$ and $R^{3a}$, $R^{1b}$, $R^{2b}$ and $R^{1c}$ in said general formulae (1) to (3) have the same number of carbon atoms, respectively.

4. The non-aqueous electrolyte secondary battery in accordance with claim 3,

wherein the percentage by volume of each of said

phosphates in said mixture is not less than 30%.

5. The non-aqueous electrolyte secondary battery in accordance with claim 1,

wherein at least one of said positive electrode, said non-aqueous electrolyte and said negative electrode contains at least one phosphate selected from the group consisting of dibutyl phosphate, dipentyl phosphate, dihexyl phosphate, diheptyl phosphate, dioctyl phosphate, dinonyl phosphate, didecyl phosphate, diundecyl phosphate, didodecyl phosphate, monobutyl phosphate, monopentyl phosphate, monohexyl phosphate, monoheptyl phosphate, monooctyl phosphate, monononyl phosphate, monodecyl phosphate, monoundecyl phosphate and monododecyl phosphate.

6. The non-aqueous electrolyte secondary battery in accordance with claim 1,

wherein said non-aqueous electrolyte contains 0.1 to 20 wt% of said phosphate.

7. The non-aqueous electrolyte secondary battery in accordance with claim 1,

wherein said chargeable and dischargeable positive electrode contains at least one selected from the group consisting of $LiCoO_2$, $LiMn_2O_4$, $LiNiO_2$ and $LiFeO_2$, and said chargeable and dischargeable negative electrode contains at least one selected from the group consisting of a carbon material, a metallic lithium, a lithium alloy and a compound containing lithium.

8. A method for producing a non-aqueous electrolyte secondary battery comprising the steps of:

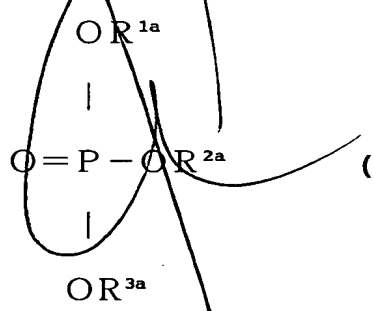
preparing an electrode mixture comprising an active material, a conductive agent and a binder,

applying said electrode mixture on a current collector plate to prepare an electrode,

assembling a non-aqueous electrolyte secondary battery using said electrode and a non-aqueous electrolyte and,

adding at least one of said active material, said electrode mixture and said electrode with at least one selected from the group consisting of

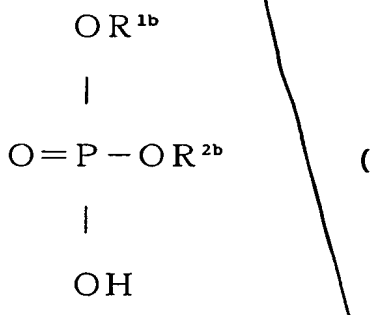
a phosphate represented by the general formula (1):



(1)

where $R^{1a}$, $R^{2a}$ and $R^{3a}$ independently represent an aliphatic hydrocarbon group having 7 to 12 carbon atoms,

a phosphate represented by the general formula (2):

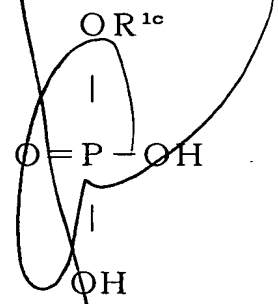


(2)

where $R^{1b}$ and $R^{2b}$ independently represent an aliphatic

hydrocarbon group having 1 to 12 carbon atoms or an aromatic hydrocarbon group, and

a phosphate represented by the general formula (3):



(3)

where $R^{1c}$ represents an aliphatic hydrocarbon group having 1 to 12 carbon atoms or an aromatic hydrocarbon group.